

activity series. (displacement series; electromotive series).

An arrangement of the metals in the order of their tendency to react with water and acids, so that each metal displaces from solution those below it in the series and is displaced by those above it. The arrangement of the more common metals is: K Na Mg Al Zn Fe Sn Pb H Cu Hg Ag Pt Au.

“Actol” [Allied-Signal]. TM for a series of polyoxypropylene diols, triols, and polyols. These vary in molecular weight from approximately 1000 to 3600; the diols and triols are almost insoluble in water, but the polyols are completely miscible with it.

Use: Urethane foams, elastomers, and coatings.

“Acumist” [Allied-Signal]. TM for homopolymer, and copolymer polyolefin waxes.

Use: For adhesives, coatings, color concentrates, cosmetics, inks, lubricants, paints, plastics, rubber, and textiles.

acyl. An organic acid group in which the OH of the carboxyl group is replaced by some other substituent (RCO—). Examples: acetyl, $\text{CH}_3\text{CO—}$; benzoyl, $\text{C}_6\text{H}_5\text{CO—}$.

ADA. Abbreviation for acetonedicarboxylic acid. See β -ketoglutaric acid.

1-adamantanamine hydrochloride. See amantadine hydrochloride.

adamantane. (*sym*-tricyclodecane). $\text{C}_{10}\text{H}_{16}$. Has unique molecular structure consisting of four fused cyclohexane rings.

Properties: White crystals. Mp 270C (sublimes), approximately 99% pure. Derivatives (alkyl adamantanes) have potential uses in imparting heat, solvent, and chemical resistance to many basic types of plastics. Synthetic lubricants and pharmaceuticals are also based on adamantane derivatives. Adamantane diamine is used to cure epoxy resins. See “Symmetrel” [Du Pont].

adamsite. See diphenylamine chloroarsine.

Adams, Roger. (1889–1971). An American chemist, born in Boston; graduated from Harvard, where he taught chemistry for some years. After studying in Germany, he moved to the University of Illinois in 1916, where he later became chairman of the department of chemistry (1926–1954). During his prolific career, he made this department one of the best in the country, and strongly influenced the development of industrial chemical research in the U.S. His executive and creative ability made him an outstanding figure as a teacher, innovator, and administrator. Among his research contributions were development of platinum-hydrogenation

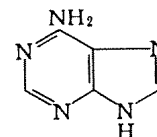
catalysts, and structural determinations of chaulmoogric acid, gossypol, alkaloids, and marijuana. He held many important offices, including president of the ACS and AAAS, and was a recipient of the Priestley medal.

addition polymer. A polymer formed by the direct addition or combination of the monomer molecules with one another. An example is the formation of polystyrene by stepwise combination of styrene monomer units (approximately 1000 per macromolecule). See polymerization.

additive. A nonspecific term applied to any substance added to a base material in low concentrations for a definite purpose. Additives can be divided into two groups: (1) those that have an auxiliary or secondary function (antioxidants, inhibitors, thickeners, plasticizers, flavoring agents, colorants, etc.) and (2) those that are essential to the existence of the end product (leavening agents in bread, curatives in rubber, blowing agents in cellular plastics, emulsifiers in mayonnaise, polymerization initiators in plastics, and tanning agents in leather). It seems logical that the latter group should be regarded less as additives than as base materials, since the end products could not exist without them. In any case, a specific functional name is preferable to the neutral term *additive*. See food additive.

adduct. See inclusion complex.

adenine. (6-aminopurine). CAS: 73-24-5. $\text{C}_5\text{H}_5\text{N}_5$.



Properties: White, odorless, microcrystalline powder; sharp salty taste. Mp 360–365C (decomposes). Very slightly soluble in cold water; soluble in boiling water, acids, and alkalies; slightly soluble in alcohol; insoluble in ether and chloroform. Aqueous solutions are neutral.

Occurrence: Ribonucleic acids and deoxyribonucleic acids, nucleosides, nucleotides, and many important coenzymes.

Derivation: By extraction from tea; by synthesis from uric acid; prepared from yeast ribonucleic acid.

Use: Medicine and biochemical research.

adenosine. (adenine riboside; 9- β -D-ribofuranosyl-adenine).

CAS: 58-61-7. $\text{C}_5\text{H}_4\text{N}_5 \cdot \text{C}_5\text{H}_8\text{O}_4$.

The nucleoside composed of adenine and ribose.